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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,766	06/27/2003	Liming Lou	AI 286	5504

23995 7590 09/29/2005

RABIN & Berdo, PC
1101 14TH STREET, NW
SUITE 500
WASHINGTON, DC 20005

EXAMINER

PATEL, VISHAL A

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 09/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/606,766

Applicant(s)

LOU, LIMING

Examiner

Vishal Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 2,3 and 12-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-11 and 15-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/13/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 2-3 and 12-14 are withdrawn as indicated in the non-final office action mailed 2/18/05. Applicants' arguments on this restriction on pages 9-10 of the amendment filed on 7/15/05 are not persuasive because claims 2-3 and 12-14 do not read on the elected species.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 4 and 15-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Dietle (US. 6,494,462).

Regarding claims 1, 4 and 15-22: Dietle discloses in figures 15A that a sealing device having a sealing member (4) brought into contact with a contact surface (surface that contacts the shaft) so as to be slidable in a predetermined sliding direction, the sealing member comprising a sliding contact portion (8) containing a high polymer material to be brought into sliding contact with the contact surface, a plurality of streaks (18), which are independent of one another, provided side by side so as to constitute a column on a surface of the sliding contact portion and each streak is bordered along its entire circumference by the surface of the sliding contact portion (each streak 18 is surrounded by surface of 8), so as to separate each streak from an adjacent streak by a space.

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The sliding contact portion includes an annular sealing lip axially moved relative to the contact surface (lip having surface 8). The sealing member is brought into sliding contact with a peripheral surface. The high polymer material includes rubber or synthetic resin.

The sealing device is a sliding member. The streaks constituting the column are alternately inclined in opposite directions of sliding direction. Each of the streaks has a length and a width, with the length being greater than the width. The streaks that constitute the column having a first streak and a second streak, which are inclined in opposite direction relative to the sliding direction. The first streak is at a predetermined distance from the second streak.

4. Claims 1 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 53-152053 (referred as JP '53).

JP '53 discloses a sealing device comprising a sealing member as showed in figure 1, the sealing device comprising a sealing member (figure 1) brought into contact with a contact surface (intended use) so as to be slidable in a predetermined sliding direction, the sealing member comprising a sliding contact portion (surface having streaks 6) containing a high polymer material to be brought into sliding contact with the contact surface, a plurality of recessed or streaks (6), which are independent of one another, provided side by side so as to constitute a column on a surface of the sliding contact portion and each streak is bordered along its entire circumference by the surface of the sliding contact portion (each streak 6 is surrounded by surface of the sliding contact portion), so as to separate each streak from an adjacent streak by a space. There are provided a plurality of columns (plurality of columns that are parallel to each other formed by the streaks 6).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

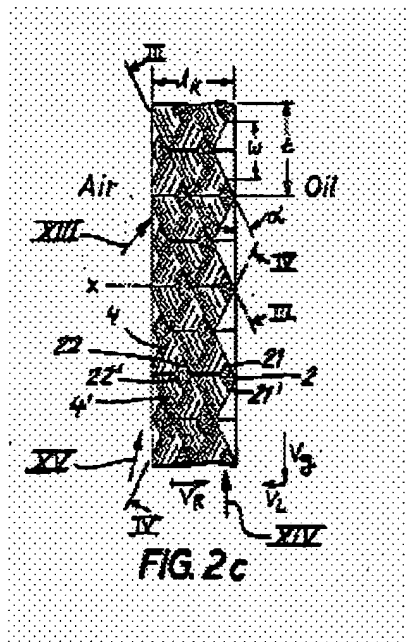
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grorich (US. 3,973,781) in view of Dietle.

Regarding claim 1 and 11: Grorich discloses a sealing device comprising a sealing member brought into contact with a contact surface (surface of 17c) so as to be slidable in a predetermined sliding direction, the sealing member comprising a sliding contact portion containing a high polymer material to be brought into sliding contact with the contact surface, a plurality of streaks (see attached figure of Grorich), which are independent of one another, provided side by side so as to constitute a column on a surface of the sliding contact portion. The sealing device having a plurality of columns (each row of columns that are indicated by different cross hatching). The recessed or protruding streaks constituting the column are inclined along the circumference of the seal member. The high polymer material includes rubber or synthetic resin. The recessed or protruding streaks constituting the column (each cross hatching indicated in the attached figure) are alternately inclined in opposing directions in a sliding direction. Grorich discloses the invention substantially as claimed above but fails to disclose that the streaks are bordered along its entire circumference by the surface of the sliding contact portion. Dietle discloses plurality of streaks that are connected as directed in figures 8 and 9 but also teaches that the streaks are not connected as showed in figures 7-7B. It would have been

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obvious to one having ordinary skill in the art at the time the invention was made to configure the streaks of Grorich to have a bordered that is formed by the sliding contact portion as taught by Dietle, to provide a sliding contact surface with streaks that contact each other or streaks that do not contact each other is considered to be art equivalent.



7. Claims 1 and 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yomogida (09-210088) in view of Dietle.

Yomogida discloses a sealing device comprising an annular piston accommodated in an annular fluid chamber in the annular accommodation chamber, there being provided a plurality of sealing members (each lip seal contacting a surface as showed in figure 2), the plurality of sealing member including inner and outer sealing members provided in the annular piston (inner and outer sealing members as seen in figures 1-2, seal member attached to 62 and seal member attached to 63), the annular accommodation chamber is formed between an inner cylinder and an outer cylinder in the housing (see figure 2), an outer peripheral surface of the inner cylinder and

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an inner peripheral surface of the outer cylinder are respectively provided with contact surfaces respectively corresponding to the inner and outer sealing members, an annular partition plate (13) for defining an annular back pressure chamber for applying back pressure to the annular piston, the plurality of sealing members including an annular sealing member (15) provided on at least the outer periphery of the partition plate, the annular piston comprising an inner cylinder, an outer cylinder, an annular end wall for connecting respective one end of the inner cylinder and the outer cylinder (inner and outer cylinder showed in figure 2), the annular piston includes a piston *for operating of a clutch in an automatic transmission of an automobile (intended use)* and an inner peripheral surface of the outer cylinder being provide with a contact surface corresponding to the annular sealing member provided on the outer periphery of the partition plate. The sealing device further comprising a sealing member (7) brought into contact with a contact surface that is slidable in a predetermined direction and the direction being axial or linearly reciprocating. The sealing member comprising a sliding contact portion containing a high polymer material to be brought into sliding contact with the contact surface (7 contacts a surface of 3). Yomogida discloses the invention substantially as claimed above but fails to disclose that the sealing member having plurality of recessed or protruding streaks, which are independent of one another provided side by side so as to constitute a column on a surface of the sliding contact surface. Dietle discloses in figures 15A that a sealing device having a sealing member (4) brought into contact with a contact surface (surface that contacts the shaft) so as to be slidable in a predetermined sliding direction, the sealing member comprising a sliding contact portion (8) containing a high polymer material to be brought into sliding contact with the contact surface, a plurality of streaks (18), which are independent of one another, provided side by side

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so as to constitute a column on a surface of the sliding contact portion and each streak is bordered along its entire circumference by the surface of the sliding contact portion (each streak 18 is surrounded by surface of 8), so as to separate each streak from an adjacent streak by a space. It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the contact surface of the sealing member of Yomogida to have plurality of recessed or protruding streaks to form a column as taught by Dietle, to provide a contact surface that is excellent in packing capability, pumping members, extremely low friction (only a portion of the contact surface contacts a shaft), effective static packing in non-motion and efficient seal (column 3, lines 30-68 of Dietle).

Response to Arguments

8. Applicant's arguments with respect to claims 1, 4-11 and 15-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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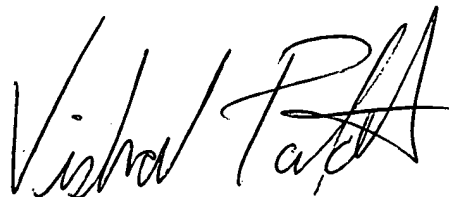
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is 571-272-7060. The examiner can normally be reached on 6:30am to 8:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 571-272-7049. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

VP
September 26, 2005

A handwritten signature in black ink, appearing to read 'Vishal Patel', with a stylized flourish at the end.

Vishal Patel
Patent Examiner
Tech. Center 3600